IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Andreas Plettner

Serial No.:

Title of Invention: TRANSPONDER

Filing Date: Concurrently Herewith

Attorney Docket No.: PL1.T01

Seattle, Washington 98101
March 13, 2001

TO THE COMMISSIONER OF PATENTS AND TRADEMARKS[1]
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Entry of this Preliminary Amendment, prior to substantive examination of the application, including calculation of any filing fees due, is requested. No fee is required by this Amendment.

In the Specification:

On page 1, line 5, please add the following subheading:- - **TECHNICAL FIELD** - - as a paragraph.

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[1] **CERTIFICATE OF MAILING (37 CFR 1.8a)**

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as express mail in an envelope addressed to The Commissioner of Patents and Trademarks, Washington, D.C. 20231.

3/13/2001
Date

Leslie Jordan
Name of person mailing paper

Leslie Jordan
Signature of person mailing paper

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On page 1, line 11, please add the following subheading, - - **BACKGROUND OF THE INVENTION** - - as a paragraph.

On page 4, line 12, please add the following subheading, - - **SUMMARY OF THE INVENTION** - - as a paragraph.

On page 8, line 16, please add the following subheading, - - **BRIEF DESCRIPTION OF THE DRAWINGS** - - as a paragraph.

On page 8, line 30, please add the following subheading, - - **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS** - - as a paragraph.

Claims:

Please cancel original claims 1 through 11, and add the following claims. Substitute sheets illustrating the amendments below in clean form are attached hereto.

12. (new claim) A transponder comprising a chip (5) having contact pads (7) and at least two coupling elements (8), which are conductively connected with the contact pads (7),

characterized in that

the coupling elements (8) are touch-free relative to each other and formed in a self-supported as well as free-standing way and are essentially extended parallel to the chip plane,

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the total mounting height of the transponder corresponds essentially to the mounting height of the chip (5), and

the coupling elements (8) are in geometry and size adapted for acting as a dipole antenna or in conjunction with an evaluation unit as a plate capacitor.

13. (new claim) The transponder of claim 12, characterized in that the connection of the coupling elements (8) with the contact pads (7) is performed on the wafer.

14. (new claim) The transponder of claim 12, characterized in that the coupling elements (8) formed as a dipole antenna are formed in a meandrous way.

15. (new claim) The transponder of claim 12, characterized in that the coupling elements (8) formed as a dipole antenna are adapted for operation at a working frequency of more than 2,45 GHz or for operation at a working frequency of at least 24,125 GHz.

16. (new claim) The transponder of claim 14, characterized in that the connection of the coupling elements (8) with the contact pads (7) is performed on the wafer.

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17. (new claim) The transponder of claim 15, characterized in that the connection of the coupling elements (8) with the contact pads (7) is performed on the wafer.

18. (new claim) The transponder of claim 15, characterized in that the coupling elements (8) formed as a dipole antenna are formed in a meandrous way.

19. (new claim) The transponder of claim 18, characterized in that the connection of the coupling elements (8) with the contact pads (7) is performed on the wafer.

20. (new claim) A. transponder comprising a chip (5) having a contact pad (7) and a coupling element (8), which is conductively connected with the contact pad (7),

characterized in that

the coupling element (8) is formed in a self-supported as well as free-standing way and is essentially extended parallel to the chip plane,

the total mounting height of the transponder corresponds essentially to the mounting height of the chip (5), and

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the coupling element (8) is in geometry and size adapted for acting in conjunction with an evaluation unit as a plate capacitor.

21. (new claim) The transponder of claim 20, characterized in that the connection of the coupling element (8) with the contact pad (7) is performed on the wafer.

22. (new claim) A method of manufacturing transponders, each comprising a chip (5) having contact pads (7) and at least two coupling elements (8), which are conductively connected with the contact pads (7), the method comprising the steps of:

providing a plurality of pre-fabricated chips (5) having contact pads (7), in a grouping given by a wafer;

providing a metallized plastic film or a metallic film for forming coupling elements (8);

manufacturing transponders by connecting the metallized plastic film or the metallic film with the contact pads (7) of the chips (5), whereby before, during or after the connecting the coupling elements (8) are formed out of the film and wherein these coupling elements (8) are in geometry and size adapted for acting as a dipole antenna or

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in conjunction with an evaluation unit as a plate capacitor; and

extracting the transponders from the grouping defined by the wafer such, that the coupling elements (8) of the extracted transponders are self-supporting and free-standing and essentially extended parallel to the chip plane, so that the total mounting height of the transponder corresponds essentially to the mounting height of the chip (5).

23. (new claim) The method of claim 22, characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed in a meandrous way.

24. (new claim) The method of claim 22, characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed for operation at a working frequency of more than 2,45 Ghz.

25. (new claim) The method of claim 24 characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed in a meandrous way.

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26. (new claim) The method of claim 25 characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed for operation at a working frequency of at least 24,125 GHz.

27. (new claim) The method of claim 22, characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed for operation at a working frequency of at least 24,125 GHz.

28. (new claim) The method of claim 27 characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed in a meandrous way.

29. (new claim) The method of claim 26 characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed in a meandrous way.

REMARKS

This application was originally filed with claims 1 through 11. Original claims 3 through 5, 10 and 11 were in multiple dependent format. New claims 12 through 29 replace original claims 1 through 11, and are substantially identical thereto, except the multiple dependency format has been eliminated.

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The application is being filed without formal papers or filing fee. Nevertheless, the applicant claims status as a small entity. Formal papers and the filing fee plus surcharge will be filed upon receipt of a Notice to File Missing Parts. In addition, the Applicant claims priority of the filing date of German Application No. 100 12 967.6 filed on March 16, 2000. A certified copy of that application will be filed with the formal papers and filing fee.

Entry of this Amendment, prior to substantive examination of this application is requested. The Examiner is invited to contact the Applicant's undersigned representative should there be any questions regarding this Preliminary Amendment.

Respectfully submitted,

Andreas Plettner

RICHARDSON & FOLISE

Michael J. Folise
Reg. No. 31,952

Enclosure: Substitute sheets

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CLAIMS:

12. (new claim) A transponder comprising a chip (5) having contact pads (7) and at least two coupling elements (8), which are conductively connected with the contact pads (7),

characterized in that

the coupling elements (8) are touch-free relative to each other and formed in a self-supported as well as free-standing way and are essentially extended parallel to the chip plane,

the total mounting height of the transponder corresponds essentially to the mounting height of the chip (5), and

the coupling elements (8) are in geometry and size adapted for acting as a dipole antenna or in conjunction with an evaluation unit as a plate capacitor.

13. (new claim) The transponder of claim 12, characterized in that the connection of the coupling elements (8) with the contact pads (7) is performed on the wafer.

14. (new claim) The transponder of claim 12, characterized in that the coupling elements (8) formed as a dipole antenna are formed in a meandrous way.

15. (new claim) The transponder of claim 12, characterized in that the coupling elements (8) formed as

a dipole antenna are adapted for operation at a working frequency of more than 2,45 GHz or for operation at a working frequency of at least 24,125 GHz.

16. (new claim) The transponder of claim 14, characterized in that the connection of the coupling elements (8) with the contact pads (7) is performed on the wafer.

17. (new claim) The transponder of claim 15, characterized in that the connection of the coupling elements (8) with the contact pads (7) is performed on the wafer.

18. (new claim) The transponder of claim 15, characterized in that the coupling elements (8) formed as a dipole antenna are formed in a meandrous way.

19. (new claim) The transponder of claim 18, characterized in that the connection of the coupling elements (8) with the contact pads (7) is performed on the wafer.

20. (new claim) A. transponder comprising a chip (5) having a contact pad (7) and a coupling element (8), which is conductively connected with the contact pad (7),

characterized in that

the coupling element (8) is formed in a self-supported as well as free-standing way and is essentially extended parallel to the chip plane,

the total mounting height of the transponder corresponds essentially to the mounting height of the chip (5), and

the coupling element (8) is in geometry and size adapted for acting in conjunction with an evaluation unit as a plate capacitor.

21. (new claim) The transponder of claim 20, characterized in that the connection of the coupling element (8) with the contact pad (7) is performed on the wafer.

22. (new claim) A method of manufacturing transponders, each comprising a chip (5) having contact pads (7) and at least two coupling elements (8), which are conductively connected with the contact pads (7), the method comprising the steps of:

providing a plurality of pre-fabricated chips (5) having contact pads (7), in a grouping given by a wafer;

providing a metallized plastic film or a metallic film for forming coupling elements (8);

manufacturing transponders by connecting the metallized plastic film or the metallic film with the contact pads (7) of the chips (5), whereby before, during or after the connecting the coupling elements (8) are formed out of the film and wherein these coupling elements (8) are in geometry and size adapted for acting as a dipole antenna or in conjunction with an evaluation unit as a plate capacitor; and

extracting the transponders from the grouping defined by the wafer such, that the coupling elements (8) of the extracted transponders are self-supporting and free-standing and essentially extended parallel to the chip plane, so that the total mounting height of the transponder corresponds essentially to the mounting height of the chip (5).

23. (new claim) The method of claim 22, characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed in a meandrous way.

24. (new claim) The method of claim 22, characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed for operation at a working frequency of more than 2,45 GHz.

25. (new claim) The method of claim 24 characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed in a meandrous way.

26. (new claim) The method of claim 25 characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed for operation at a working frequency of at least 24,125 GHz.

27. (new claim) The method of claim 22, characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed for operation at a working frequency of at least 24,125 GHz.

28. (new claim) The method of claim 27 characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed in a meandrous way.

29. (new claim) The method of claim 26 characterized in that the coupling elements (8), which are formed as a dipole antenna, are formed in a meandrous way.

ABSTRACT

Transponder

A transponder comprising a chip having contact pads and at least two coupling elements, which are conductively connected with the contact pads, wherein the coupling elements are touch-free relative to each other and formed in a self-supported as well as free-standing way and are essentially extended parallel to the chip plane, the total mounting height of the transponder corresponds essentially to the mounting height of the chip, and the coupling elements are in geometry and size adapted for acting as a dipole antenna or in conjunction with an evaluation unit as a plate capacitor.